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**Patent** [19]

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[54] **HARMFUL GAS REMOVING APPARATUS**

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[51] Int. CL.<sup>6</sup> B01D05394 ; B01D05386; B01D05386; B01J02118[57] **ABSTRACT**

**PURPOSE:** To provide a harmful gas removing apparatus adapted to ventilation equipment for a tunnel and having high practical value capable of efficiently performing the purification of air and the washing and regeneration of a photocatalyst bed within a short time in such a state that the photocatalyst bed is incorporated in a casing.

**CONSTITUTION:** In a harmful gas removing apparatus for removing an atmosphere contaminant of low concn. such as NO<sub>x</sub> or SO<sub>x</sub> contained in the environmental atmosphere, a photocatalyst bed based on a mixture of titanium dioxide and activated carbon is irradiated with near ultraviolet rays to adsorb and catch a harmful gas component by the photocatalyst bed. A wind tunnel having the photocatalyst bed 4 and a light source 5 incorporated therein and allowing air to be treated to flow is constituted of a casing 3 also used as a washing water tank and a washing part 6 consisting of a storage tank 8 of washing water 7, a water sending pump 9 and a circulating water sending passage 10 is provided to the casing 3 and, at the time of the regeneration of the photocatalyst bed, washing water is injected into the casing to be circulated and sent and the oxidation product of the atmosphere pollutant adsorbed on the photocatalyst bed is removed to restore catalytic function.

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